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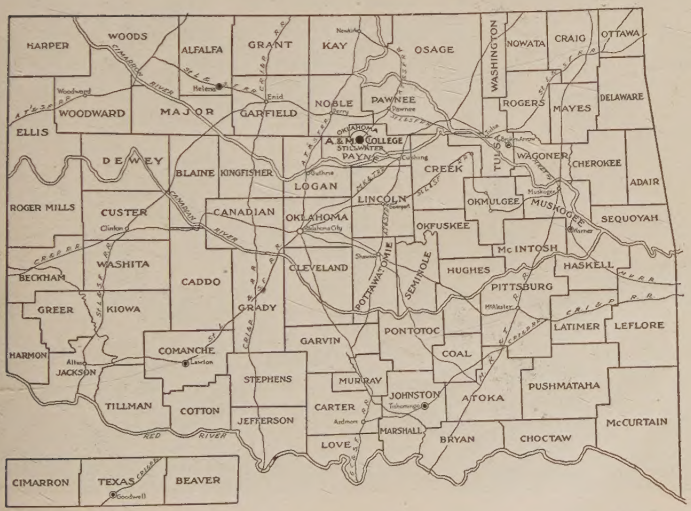
JACK BEAN

(*Canavalia ensiformis*)

BY N. O. BOOTH,
HORTICULTURIST AND BOTANIST



LOCATION OF THE A. & M. COLLEGE AND THE SIX SCHOOLS OF AGRICULTURE

STILLWATER, OKLAHOMA

JACK BEAN
(*Canavalia ensiformis*)
(The ruler showing in cut is one foot in length)

JACK BEAN

(*Canavalia ensiformis*)

BY N. O. BOOTH

Horticulturist and Botanist

During the last few years this Station has received many inquiries as ne value of a new bean. Specimens are frequently sent in for identi- ion. The jack bean is a large, coarse, very vigorous plant, evident at sight to be of the bean type, usually bushy, but under certain condi- s and with certain varieties becoming climbers. It is apparently quite lth resistant, and this is the character which has usually attracted the ntion of the Oklahoma grower.

The jack bean came originally from the tropics; was introduced into country some years ago, and has become pretty commonly spread over Southern States. As is frequently the case with these new introduc- s, it fell largely into the hands of seed fakers, many of whom made ex- agant claims as to its value. It was introduced into Oklahoma chiefly Texas. We are probably quite close to the northern border of its essful culture.

We first raised the bean two years, our seed at that time being secured lly from correspondents in the State, and all of which had originally e from Texas. These plants were all alike and of the bush type. The vidual beans are of about the size of a lima bean, but of quite a different pe, being thicker, less square (truncate) at the ends, and with a very acteristic brown discoloration at the hilum or seed scar. The pods are emely large, running from ten to fourteen inches in length. The halves ne of these pods, when dry and split apart, will twist spirally, often ning an almost perfect cylinder.

It appears from what we have been able to learn that the jack bean has raised for many years in many parts of the tropics, particularly south- China, and certain of the Pacific islands. In China, it is stated, the ns are frequently used for human consumption, but in all other sections ppears that the jack bean has been used, if at all, only as a forage for k. For this latter purpose they have been tested in the Hawaiian Is- s. The report from these different sections agree at least in a general

The general character of the jack bean is as follows: It is a very se growing, drouth resistant plant. For the last two years these beans grown, and the leaves have shown no signs of withering when the peas, the kafir corn, and practically all other cultivated plants were ving severe injury from the drouth. The jack beans are apparently rooted. Most of the varieties grown in this country form bushes from

eighteen inches to two feet high, but many trailing sorts are mention writers on tropical forms of the bean, and we secured from the U. S partment of Agriculture four varieties of the running sorts which we during the year 1913. Thees trailing varieties are apparently more tr than the bush sorts, for these four, and these four only, failed to n beans with us. They were still growing vigorously when frost came.

All of the jack beans have a very coarse texture, both of seed an and none of them are of a very palatable taste. Some of the growers the leaves as being bitter, but they do not taste particularly bitter writer. Analyses made by the Hawaiian Experiment Station show th lowing results: The nutritive constituents are compared with co grown in a nearby field. The Hawaiian Experiment Station has mad comparison because the jack bean is supposed to be of value as a for at all, and a possible competitor with the cowpea. The analysis of the pea here given, shows somewhat different results than the average of made in the United States, but there is no reason to think that the con tive difference between the two plants is any different in the Ha Islands than it would be here.

Analysis of Jack Bean and Cowpea Green Fodder

(Made at the Hawaiian Experiment Station)

	Water	Protein.	Amid Nitrogen.	Fat.	Nitrogen. Free Extract.	Crude Fiber.	Ash.
Cowpeas	83.15%	3.71%	.169%	.22%	5.26%	5.75%	1.91%
Jack bean	76.81%	5.21%	.204%	.48%	8.44%	6.36%	2.70%

Thus it will be seen that the jack bean has a chemical composition similar to the legumes in general, and, as raised in Hawaii, generally rior to the cowpea in nutritive value. Its true value may, however, be lessened by its coarseness and lack of palatability.

In one of the reports from Hawaii it is mentioned as being used dairyman for cow feed; and it was stated that be found it quite diffi make his cows eat it at first, and that it was necessary to starve them This is not unusual with new feeds, even where the food proves later well suited to the animal in question. In our trials here we fed it to only. Sheep eat it quite readily, and it is apparently good for the though we have at no time had fodder enough to compare it with feeds to determine the comparative value as shown by influence on

It is practically impossible for us to give anything more than a g its capacity to produce tons of forage per acre. All of our planting been rows and fractions of an acre in the garden. Our largest plantin year, was one-fourth of an acre. It appears casually to be very prod

The apparent capacity to withstand drouth, and the productiven this new plant, would justify any one who wishes to raise winter for the dryer portions of Oklahoma to try it on a small scale at least.